

SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: BEN SACKER Examiner #: 73489 Date: 12/12/02
 Art Unit: 1626 Phone Number 303-6889 Serial Number: 10/047 807
 Mail Box and Bldg/Room Location: CM1 3E11 Results Format Preferred (circle): PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.

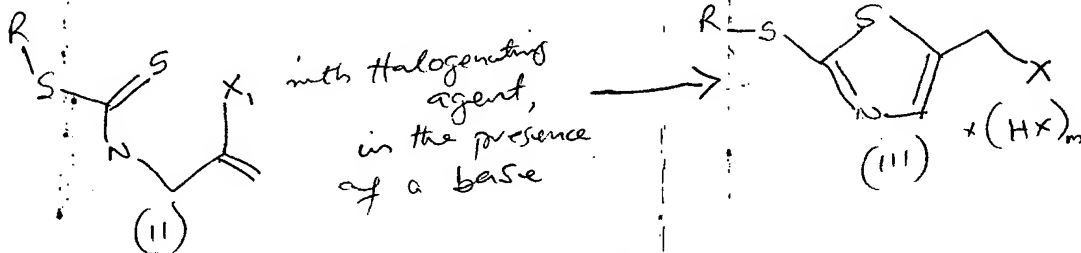
Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: Process for the preparation of thiazole derivatives

Inventors (please provide full names): Pitterna et al.

Earliest Priority Filing Date: 12/19/96

For Sequence Searches Only Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.



R and R₆ are as defined in the claim

X₁ is a leaving group (e.g. halogens, -O-C(=O)-R) or a sulfhydryl group
 -O-Si(C₁-alkyl)₃

Point of Contact:
 Barb O'Brien
 Technical Information Specialist
 STIC CM1 6A05 308-4291

J. MANN RICHTER
 SUPERVISOR/PATENT EXAMINER
 GROUP 7800

STAFF USE ONLY

Searcher: 666B
 Searcher Phone #: _____
 Searcher Location: _____
 Date Searcher Picked Up: _____
 Date Completed: 12-13-02
 Searcher Prep & Review Time: 30
 Clerical Prep Time: _____
 Online Time: 19

Type of Search

NA Sequence (#) _____
 AA Sequence (#) _____
 Structure (#) 4
 Bibliographic _____
 Litigation _____
 Fulltext _____
 Patent Family _____
 Other _____

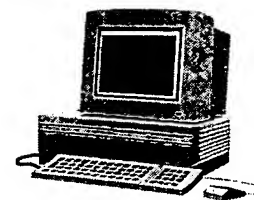
Vendors and cost where applicable

STN 369
 Dialog _____
 Questel/Orbit _____
 Dr. Link _____
 Lexis/Nexis _____
 Sequence Systems _____
 WWW/Internet _____
 Other (specify) _____

BioTech-Chem Library

Search Results

Feedback Form (Optional)



Scientific & Technical Information Center

The search results generated for your recent request are attached. If you have any questions or comments (compliments or complaints) about the scope or the results of the search, please contact *the BioTech-Chem searcher* who conducted the search *or contact*:

Mary Hale, Supervisor, 308-4258
CM-1 Room 1E01

Voluntary Results Feedback Form

- *I am an examiner in Workgroup:* (Example: 1610)
- *Relevant prior art found, search results used as follows:*
 - ☐ 102 rejection
 - ☐ 103 rejection
 - ☐ Cited as being of interest.
 - ☐ Helped examiner better understand the invention.
 - ☐ Helped examiner better understand the state of the art in their technology.

Types of relevant prior art found:

- ☐ Foreign Patent(s)
 - ☐ Non-Patent Literature
(journal articles, conference proceedings, new product announcements etc.)
- *Relevant prior art not found:*
 - ☐ Results verified the lack of relevant prior art (helped determine patentability).
 - ☐ Search results were not useful in determining patentability or understanding the invention.

Other Comments:

Drop off completed forms at the **Circulation Desk CM-1**, or send to Mary Hale, CM1-1E01 or mary.hale@uspto.gov

=> fil reg; d stat que 17; d que nos 111;d que nos 112; fil cap1; d que nos 117; fil uspatf; d que nos 124
FILE 'REGISTRY' ENTERED AT 10:42:35 ON 13 DEC 2002
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
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Property values tagged with IC are from the ZIC/VINITI data file provided by InfoChem.

STRUCTURE FILE UPDATES: 12 DEC 2002 HIGHEST RN 476148-76-2
DICTIONARY FILE UPDATES: 12 DEC 2002 HIGHEST RN 476148-76-2

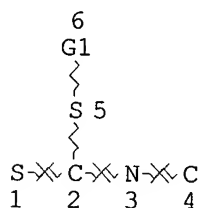
TSCA INFORMATION NOW CURRENT THROUGH MAY 20, 2002

Please note that search-term pricing does apply when conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. See HELP PROPERTIES for more information. See STNote 27, Searching Properties in the CAS Registry File, for complete details:
<http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf>

L1 STR



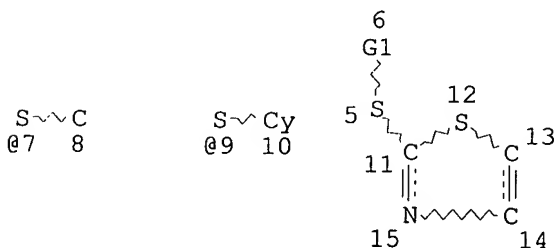
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VAR G1=C/CY/7/9
NODE ATTRIBUTES:
NSPEC IS RC AT 1
NSPEC IS RC AT 2
NSPEC IS RC AT 3
NSPEC IS RC AT 4
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

full file search done on this structure

GRAPH ATTRIBUTES:
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NUMBER OF NODES IS 10

STEREO ATTRIBUTES: NONE
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L4 STR

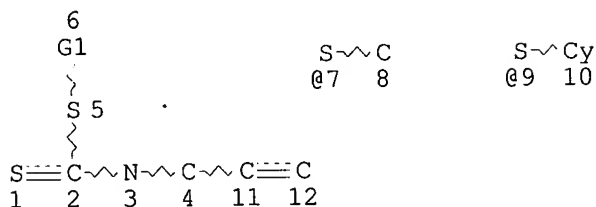


subset searches done for product &

VAR G1=C/CY/7/9
NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RSPEC I
NUMBER OF NODES IS 11

STEREO ATTRIBUTES: NONE
L5 STR



reactant

VAR G1=C/CY/7/9
NODE ATTRIBUTES:
NSPEC IS RC AT 1
NSPEC IS RC AT 2
NSPEC IS RC AT 3
NSPEC IS RC AT 4
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 12

STEREO ATTRIBUTES: NONE
L7 6053 SEA FILE=REGISTRY SUB=L3 SSS FUL (L4 OR L5)

100.0% PROCESSED 36413 ITERATIONS
SEARCH TIME: 00.00.02

6053 ANSWERS

L1 STR
L3 51272 SEA FILE=REGISTRY SSS FUL L1
L4 STR
L5 STR
L7 6053 SEA FILE=REGISTRY SUB=L3 SSS FUL (L4 OR L5)
L10 418236 SEA FILE=REGISTRY ABB=ON 16.299/RID
L11 5717 SEA FILE=REGISTRY ABB=ON L10 AND L7

Product

L1 STR
L3 51272 SEA FILE=REGISTRY SSS FUL L1
L4 STR
L5 STR
L7 6053 SEA FILE=REGISTRY SUB=L3 SSS FUL (L4 OR L5)
L10 418236 SEA FILE=REGISTRY ABB=ON 16.299/RID
L11 5717 SEA FILE=REGISTRY ABB=ON L10 AND L7
L12 336 SEA FILE=REGISTRY ABB=ON L7 NOT L11

Reactant

FILE 'CAPLUS' ENTERED AT 10:42:35 ON 13 DEC 2002
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FILE COVERS 1907 - 13 Dec 2002 VOL 137 ISS 25
FILE LAST UPDATED: 12 Dec 2002 (20021212/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

CAS roles have been modified effective December 16, 2001. Please check your SDI profiles to see if they need to be revised. For information on CAS roles, enter HELP ROLES at an arrow prompt or use the CAS Roles thesaurus (/RL field) in this file.

L1 STR
L3 51272 SEA FILE=REGISTRY SSS FUL L1
L4 STR
L5 STR
L7 6053 SEA FILE=REGISTRY SUB=L3 SSS FUL (L4 OR L5)
L10 418236 SEA FILE=REGISTRY ABB=ON 16.299/RID
L11 5717 SEA FILE=REGISTRY ABB=ON L10 AND L7
L12 336 SEA FILE=REGISTRY ABB=ON L7 NOT L11
L13 978 SEA FILE=CAPLUS ABB=ON L11/P - *citations discussing preparation*
L14 151 SEA FILE=CAPLUS ABB=ON L12
L17 1 SEA FILE=CAPLUS ABB=ON L13 AND L14

FILE 'USPATFULL' ENTERED AT 10:42:35 ON 13 DEC 2002
CA INDEXING COPYRIGHT (C) 2002 AMERICAN CHEMICAL SOCIETY (ACS) .

FILE COVERS 1971 TO PATENT PUBLICATION DATE: 12 Dec 2002 (20021212/PD)
FILE LAST UPDATED: 12 Dec 2002 (20021212/ED)
HIGHEST GRANTED PATENT NUMBER: US6493878
HIGHEST APPLICATION PUBLICATION NUMBER: US2002188996
CA INDEXING IS CURRENT THROUGH 12 Dec 2002 (20021212/UPCA)
ISSUE CLASS FIELDS (/INCL) CURRENT THROUGH: 12 Dec 2002 (20021212/PD)
REVISED CLASS FIELDS (/NCL) LAST RELOADED: Oct 2002
USPTO MANUAL OF CLASSIFICATIONS THESAURUS ISSUE DATE: Aug 2002

>>> USPAT2 is now available. USPATFULL contains full text of the <<<
>>> original, i.e., the earliest published granted patents or <<<
>>> applications. USPAT2 contains full text of the latest US <<<
>>> publications, starting in 2001, for the inventions covered in <<<
>>> USPATFULL. A USPATFULL record contains not only the original <<<
>>> published document but also a list of any subsequent <<<
>>> publications. The publication number, patent kind code, and <<<
>>> publication date for all the US publications for an invention <<<
>>> are displayed in the PI (Patent Information) field of USPATFULL <<<

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>>> records and may be searched in standard search fields, e.g., /PN, <<<
>>> /PK, etc. <<<

>>> USPATFULL and USPAT2 can be accessed and searched together <<<
>>> through the new cluster USPATALL. Type FILE USPATALL to <<<
>>> enter this cluster. <<<
>>> <<<
>>> Use USPATALL when searching terms such as patent assignees, <<<
>>> classifications, or claims, that may potentially change from <<<
>>> the earliest to the latest publication. <<<
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This file contains CAS Registry Numbers for easy and accurate substance identification.

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L1          STR
L3          51272 SEA FILE=REGISTRY SSS FUL L1
L4          STR
L5          STR
L7          6053 SEA FILE=REGISTRY SUB=L3 SSS FUL (L4 OR L5)
L10         418236 SEA FILE=REGISTRY ABB=ON 16.299/RID
L11         5717 SEA FILE=REGISTRY ABB=ON L10 AND L7
L12         336 SEA FILE=REGISTRY ABB=ON L7 NOT L11
L20         1822 SEA FILE=REGISTRY ABB=ON L11 AND USPATFULL/LC
L21         63 SEA FILE=REGISTRY ABB=ON L12 AND USPATFULL/LC
L22         488 SEA FILE=USPATFULL ABB=ON L20
L23         20 SEA FILE=USPATFULL ABB=ON L21
L24         2 SEA FILE=USPATFULL ABB=ON L22 AND L23
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=> dup rem l17,l24

FILE 'CAPLUS' ENTERED AT 10:42:41 ON 13 DEC 2002
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FILE 'USPATFULL' ENTERED AT 10:42:41 ON 13 DEC 2002
CA INDEXING COPYRIGHT (C) 2002 AMERICAN CHEMICAL SOCIETY (ACS)
PROCESSING COMPLETED FOR L17
PROCESSING COMPLETED FOR L24
L34 3 DUP REM L17 L24 (0 DUPLICATES REMOVED)
 ANSWER '1' FROM FILE CAPLUS
 ANSWERS '2-3' FROM FILE USPATFULL

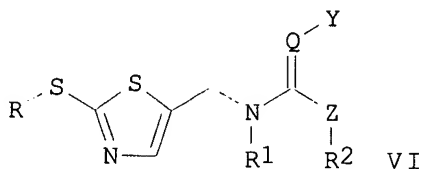
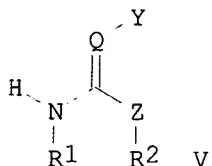
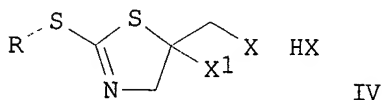
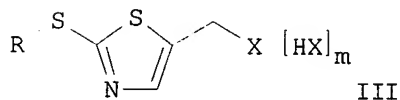
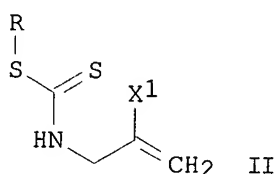
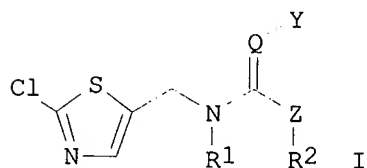
=> d ibib abs hitstr l34 1-3

L34 ANSWER 1 OF 3 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1998:424237 CAPLUS
DOCUMENT NUMBER: 129:95484
TITLE: Preparation of thiazoles
INVENTOR(S): Pitterna, Thomas; Szczepanski, Henry; Maienfisch,
Peter; Huter, Ottmar Franz; Rapold, Thomas; Senn,
Marcel; Gobel, Thomas; O'Sullivan, Anthony Cornelius;
Seifert, Gottfried
PATENT ASSIGNEE(S): Novartis A.-G., Switz.
SOURCE: PCT Int. Appl., 47 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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Searched by Barb O'Bryen, STIC 308-4291

WO 9827074	A1	19980625	WO 1997-EP7087	19971217
W:	AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
RW:	GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG			
AU 9857592	A1	19980715	AU 1998-57592	19971217
AU 727669	B2	20001221		
EP 946531	A1	19991006	EP 1997-953841	19971217
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CN 1241182	A	20000112	CN 1997-180777	19971217
CN 1086388	B	20020619		
BR 9714066	A	20000509	BR 1997-14066	19971217
TW 432056	B	20010501	TW 1997-86119053	19971217
JP 2001506254	T2	20010515	JP 1998-527322	19971217
ZA 9711358	A	19980708	ZA 1997-11358	19971218
US 6121455	A	20000919	US 1999-331432	19990813
US 6369233	B1	20020409	US 2000-628392	20000801
PRIORITY APPLN. INFO.:			CH 1996-3124	A 19961219
			WO 1997-EP7087	W 19971217
			US 1999-331432	A3 19990813
OTHER SOURCE(S):		CASREACT 129:95484; MARPAT 129:95484		
GI				



AB The title compds. [I; Q = CH, N; Y = NO₂, CN; Z = CHR₃, O, NR₃, S; R₁, R₂ = H, (un)substituted C₁-6 alkyl; R₁R₂ = alkylene which may addnl. contain a hetero atom selected from the group consisting of NR₅, O and S; R₃ = H, (un)substituted C₁-12 alkyl] were prepd. by a) reacting dithiocarbamate II

[R = (un)substituted C1-12 alkyl, C2-4 alkenyl, C2-4 alkynyl, etc.; X1 = a leaving group]] with a halogenating agent to form thiazole III [X = halo; m = 0-1], or by b) converting II by means of a halogenating agent into thiazoline IV, optionally c) converting IV into III, d) reacting III with the compd. V to form thiazole VI, e) or reacting IV with V to form thiazole VI, and f) treatment of compd. VI with chlorinating agent.

IT 192439-34-2P 192439-36-4P 192439-37-5P

192439-38-6P 192439-39-7P 192439-40-0P

192439-46-6P 192439-47-7P 192439-48-8P

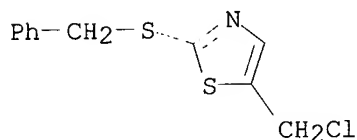
192723-46-9P 209548-64-1P 209548-65-2P

209548-66-3P 209548-71-0P

RL: IMF (Industrial manufacture); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. of thiazoles)

RN 192439-34-2 CAPLUS

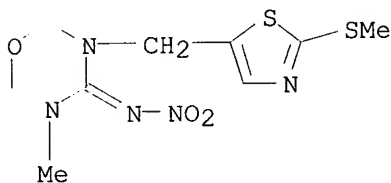
CN Thiazole, 5-(chloromethyl)-2-[(phenylmethyl)thio]-, hydrochloride (9CI)
(CA INDEX NAME)



● HCl

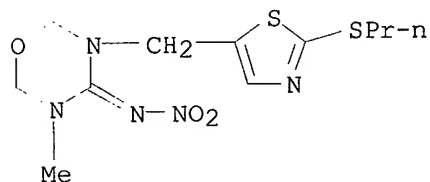
RN 192439-36-4 CAPLUS

CN 4H-1,3,5-Oxadiazin-4-imine, tetrahydro-3-methyl-5-[[2-(methylthio)-5-thiazolyl]methyl]-N-nitro- (9CI) (CA INDEX NAME)



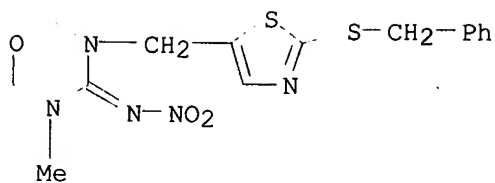
RN 192439-37-5 CAPLUS

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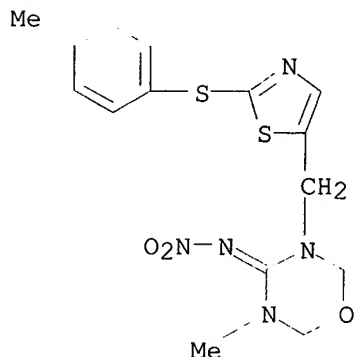


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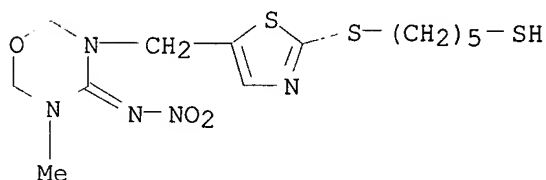
CN 4H-1,3,5-Oxadiazin-4-imine, tetrahydro-3-methyl-N-nitro-5-[[2-[(phenylmethyl)thio]-5-thiazolyl]methyl]- (9CI) (CA INDEX NAME)



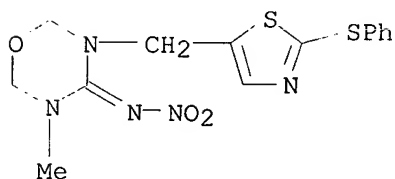
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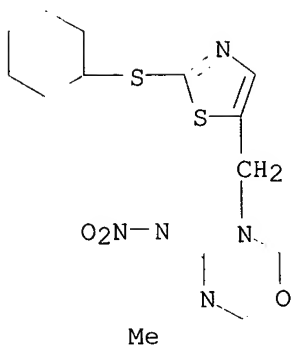
RN 192439-40-0 CAPLUS
 CN 1-Pentanethiol, 5-[[5-[[dihydro-5-methyl-4-(nitroimino)-2H-1,3,5-oxadiazin-3(4H)-yl]methyl]-2-thiazolyl]thio]- (9CI) (CA INDEX NAME)



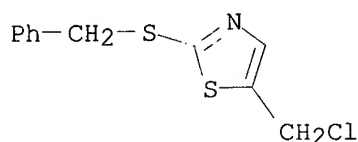
RN 192439-46-6 CAPLUS
 CN 4H-1,3,5-Oxadiazin-4-imine, tetrahydro-3-methyl-N-nitro-5-[[2-(phenylthio)-5-thiazolyl]methyl]- (9CI) (CA INDEX NAME)



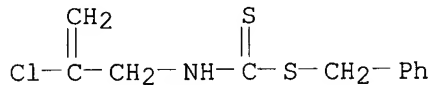
RN 192439-47-7 CAPLUS
 CN 4H-1,3,5-Oxadiazin-4-imine, 3-[[2-(cyclohexylthio)-5-thiazolyl]methyl]tetrahydro-5-methyl-N-nitro- (9CI) (CA INDEX NAME)



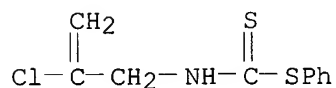
RN 192439-48-8 CAPLUS
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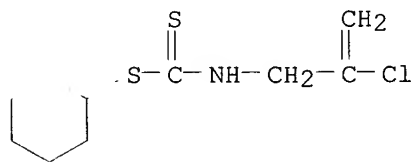
RN 192723-46-9 CAPLUS
 CN Carbamodithioic acid, (2-chloro-2-propenyl)-, phenylmethyl ester (9CI)
 (CA INDEX NAME)



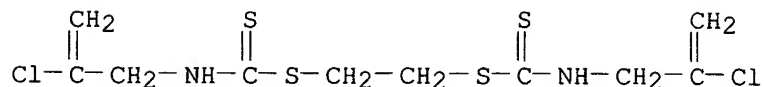
RN 209548-64-1 CAPLUS
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RN 209548-65-2 CAPLUS
 CN Carbamodithioic acid, (2-chloro-2-propenyl)-, cyclohexyl ester (9CI) (CA INDEX NAME)

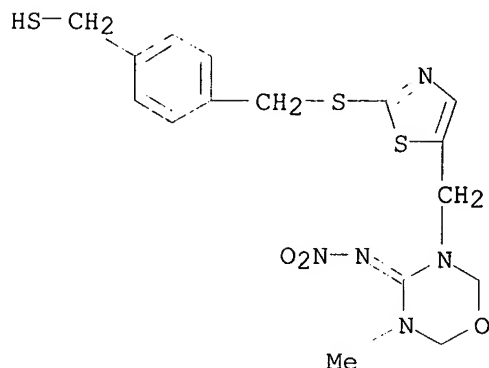


RN 209548-66-3 CAPLUS
 CN Carbamodithioic acid, (2-chloro-2-propenyl)-, 1,2-ethanediyl ester (9CI)
 (CA INDEX NAME)



RN 209548-71-0 CAPLUS

CN Benzenemethanethiol, 4-[[[5-[[dihydro-5-methyl-4-(nitroimino)-2H-1,3,5-oxadiazin-3(4H)-yl]methyl]-2-thiazolyl]thio]methyl]- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L34 ANSWER 2 OF 3 USPATFULL

ACCESSION NUMBER: 2002:75588 USPATFULL

TITLE: Process for the preparation of thiazole derivatives

INVENTOR(S): Pitterna, Thomas, Basel, SWITZERLAND

Szczepanski, Henry, Wallbach, SWITZERLAND

Maienfisch, Peter, Rodersdorf, SWITZERLAND

Huter, Ottmar Franz, Lorrach, GERMANY, FEDERAL REPUBLIC OF

Rapold, Thomas, Wallbach, SWITZERLAND

Senn, Marcel, Blonay, SWITZERLAND

Gobel, Thomas, Lorrach, GERMANY, FEDERAL REPUBLIC OF

O'Sullivan, Anthony Cornelius, Basel, SWITZERLAND

Seifert, Gottfried, Magden, SWITZERLAND

PATENT ASSIGNEE(S): Syngenta Crop Protection, Inc., Greensboro, NC, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6369233	B1	20020409
APPLICATION INFO.:	US 2000-628392		20000801 (9)
RELATED APPLN. INFO.:	Division of Ser. No. US 331432, now patented, Pat. No. US 6121455		

	NUMBER	DATE
PRIORITY INFORMATION:	CH 1996-3124	19961219
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	GRANTED	
PRIMARY EXAMINER:	Higel, Floyd D.	
ASSISTANT EXAMINER:	Sackey, Ebenezer	
LEGAL REPRESENTATIVE:	Teoli, Jr., William A., Allen, Rose M.	
NUMBER OF CLAIMS:	2	
EXEMPLARY CLAIM:	1	

NUMBER OF DRAWINGS: 0 Drawing Figure(s); 0 Drawing Page(s)

LINE COUNT: 1190

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The Invention relates to a process for the preparation of a compound of the formula ##STR1##

wherein Q, Y, Z, R.sub.1, R.sub.2, R.sub.3, R.sub.4 and R.sub.5 are as defined in the specification, which comprises

a) reacting a compound of the formula ##STR2##

with a halogenating agent to form a compound of the formula ##STR3##

b) converting a compound of formula (II) by means of a halogenating agent into a compound of the formula ##STR4##

optionally

c) converting the compound of formula (IV) into a compound of formula (III);

d) converting a compound of formula (III) by means of a compound of the formula ##STR5##

e) converting a compound (IV) by means of a compound (V) into a compound (VI); and

f) converting a compound (VI) by means of a chlorinating agent into a compound (I);

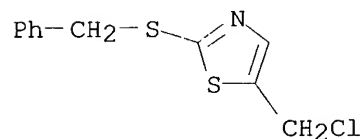
a compound (IV); to a process for the preparation of a compound (III) and to a process for the preparation of a compound (IV).

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

IT 192439-34-2P 192439-36-4P 192439-37-5P
192439-38-6P 192439-39-7P 192439-40-0P
192439-46-6P 192439-47-7P 192439-48-8P
192723-46-9P 209548-64-1P 209548-65-2P
209548-66-3P 209548-71-0P
(prepn. of thiazoles)

RN 192439-34-2 USPATFULL

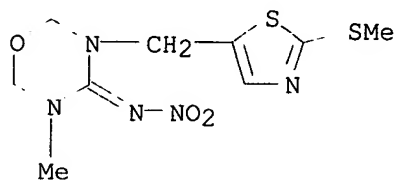
CN Thiazole, 5-(chloromethyl)-2-[(phenylmethyl)thio]-, hydrochloride (9CI)
(CA INDEX NAME)



● HCl

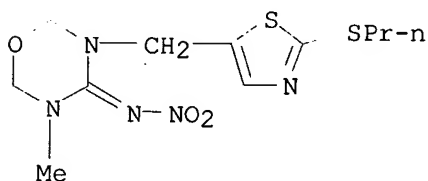
RN 192439-36-4 USPATFULL

CN 4H-1,3,5-Oxadiazin-4-imine, tetrahydro-3-methyl-5-[[2-(methylthio)-5-thiazolyl]methyl]-N-nitro- (9CI) (CA INDEX NAME)



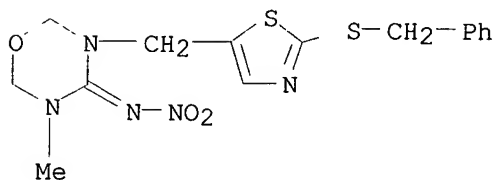
RN 192439-37-5 USPATFULL

CN 4H-1,3,5-Oxadiazin-4-imine, tetrahydro-3-methyl-N-nitro-5-[[2-(propylthio)-5-thiazolyl]methyl]- (9CI) (CA INDEX NAME)



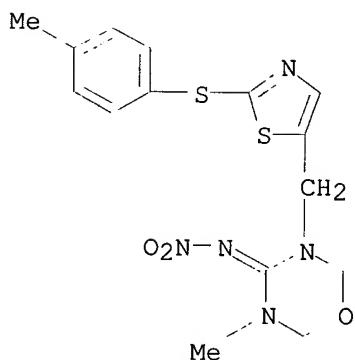
RN 192439-38-6 USPATFULL

CN 4H-1,3,5-Oxadiazin-4-imine, tetrahydro-3-methyl-N-nitro-5-[[2-(phenylmethylthio)-5-thiazolyl]methyl]- (9CI) (CA INDEX NAME)



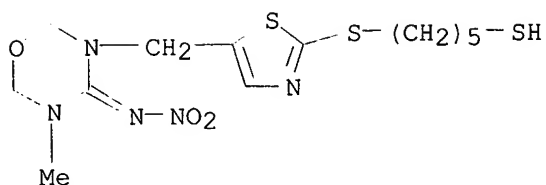
RN 192439-39-7 USPATFULL

CN 4H-1,3,5-Oxadiazin-4-imine, tetrahydro-3-methyl-5-[[2-[(4-methylphenyl)thio]-5-thiazolyl]methyl]-N-nitro- (9CI) (CA INDEX NAME)



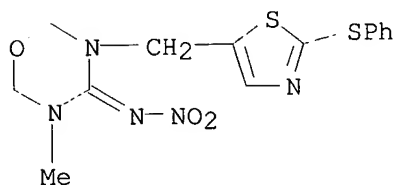
RN 192439-40-0 USPATFULL

CN 1-Pentanethiol, 5-[[5-[[dihydro-5-methyl-4-(nitroimino)-2H-1,3,5-oxadiazin-3(4H)-yl]methyl]-2-thiazolyl]thio]- (9CI) (CA INDEX NAME)



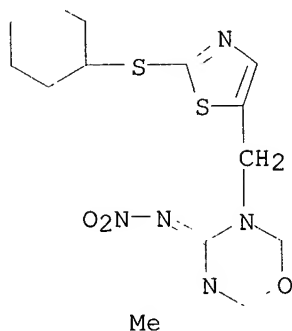
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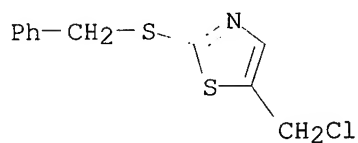
RN 192439-47-7 USPATFULL

CN 4H-1,3,5-Oxadiazin-4-imine, 3-[[2-(cyclohexylthio)-5-thiazolyl]methyl]tetrahydro-5-methyl-N-nitro- (9CI) (CA INDEX NAME)



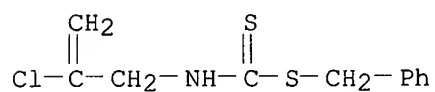
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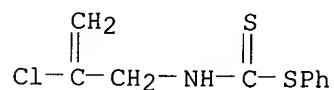
RN 192723-46-9 USPATFULL

CN Carbamodithioic acid, (2-chloro-2-propenyl)-, phenylmethyl ester (9CI) (CA INDEX NAME)



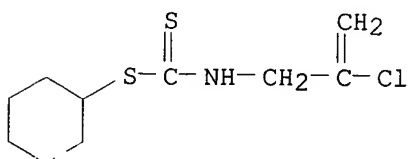
RN 209548-64-1 USPATFULL

CN Carbamodithioic acid, (2-chloro-2-propenyl)-, phenyl ester (9CI) (CA INDEX NAME)



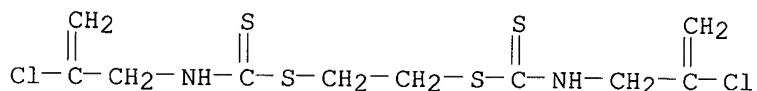
RN 209548-65-2 USPATFULL

CN Carbamodithioic acid, (2-chloro-2-propenyl)-, cyclohexyl ester (9CI) (CA INDEX NAME)



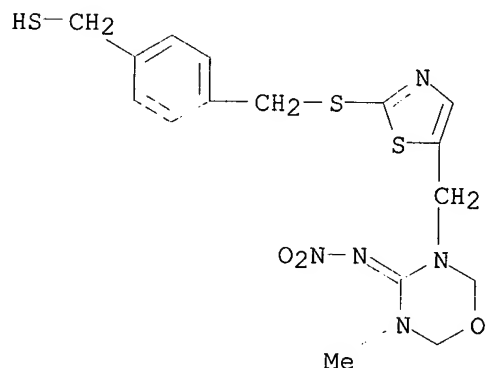
RN 209548-66-3 USPATFULL

CN Carbamodithioic acid, (2-chloro-2-propenyl)-, 1,2-ethanediyl ester (9CI) (CA INDEX NAME)



RN 209548-71-0 USPATFULL

CN Benzenemethanethiol, 4-[[[5-[[[dihydro-5-methyl-4-(nitroimino)-2H-1,3,5-oxadiazin-3(4H)-yl]methyl]-2-thiazolyl]thio]methyl]- (9CI) (CA INDEX NAME)



L34 ANSWER 3 OF 3 USPATFULL

ACCESSION NUMBER: 2000:125231 USPATFULL

TITLE: Process for the preparation of thiazole derivatives

INVENTOR(S): Pitterna, Thomas, Basel, Switzerland

Szczepanski, Henry, Wallbach, Switzerland

Maienfisch, Peter, Rodersdorf, Switzerland

Huter, Ottmar Franz, Lorrach, Germany, Federal Republic of

PATENT ASSIGNEE(S): Rapold, Thomas, Wallbach, Switzerland
Senn, Marcel, Blonay, Switzerland
Gobel, Thomas, Lorrach, Germany, Federal Republic of
O'Sullivan, Anthony Cornelius, Basel, Switzerland
Seifert, Gottfried, Magden, Switzerland
Novartis Crop Protection, Inc., Greensboro, NC, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6121455		20000919
	WO 9827074		19980625
APPLICATION INFO.:	US 1999-331432		19990813 (9)
	WO 1997-EP7087		19971217
			19990813 PCT 371 date
			19990813 PCT 102(e) date

	NUMBER	DATE
PRIORITY INFORMATION:	CH 1996-3124	19961219
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	Granted	
PRIMARY EXAMINER:	McKane, Joseph	
ASSISTANT EXAMINER:	Sackey, Ebenezer	
LEGAL REPRESENTATIVE:	Peabody, III, John D., Teoli, Jr., William A.	
NUMBER OF CLAIMS:	6	
EXEMPLARY CLAIM:	1	
LINE COUNT:	1454	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The invention relates to a process for the preparation of a compound of the formula ##STR1## and, where applicable, its E/Z-isomers, mixtures of E/Z-isomers and/or tautomers, in each case in free form or in salt form, wherein

Q is CH or N,

Y is NO.sub.2 or CN,

Z is CHR.sub.3, O, NR.sub.3 or S,

R.sub.1 and R.sub.2 are either each independently of the other hydrogen or unsubstituted or R.sub.4 -substituted C.sub.1 -C.sub.8 alkyl, or together form an alkylene bridge having two or three carbon atoms, and said alkylene bridge may additionally contain a hetero atom selected from the group consisting of NR.sub.5, O and S,

R.sub.3 is H or unsubstituted or R.sub.4 -substituted C.sub.1 -C.sub.12 alkyl,

R.sub.4 is unsubstituted or substituted aryl or heteroaryl, and

R.sub.5 is H or C.sub.1 -C.sub.12 alkyl;

which comprises

a) reacting a compound of the formula ##STR2## and, where applicable, its E/Z-isomers, mixtures of E/Z-isomers and/or tautomers, in each case in free form or in salt form, which is known or can be prepared by processes known.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

IT 192439-34-2P 192439-36-4P 192439-37-5P
192439-38-6P 192439-39-7P 192439-40-0P

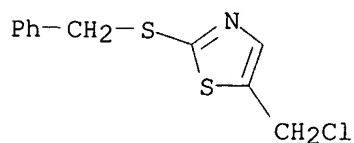
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209548-66-3P 209548-71-0P

(prepn. of thiazoles)

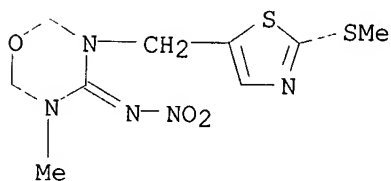
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CN • Thiazole, 5-(chloromethyl)-2-[(phenylmethyl)thio]-, hydrochloride (9CI)
(CA INDEX NAME)

● HCl

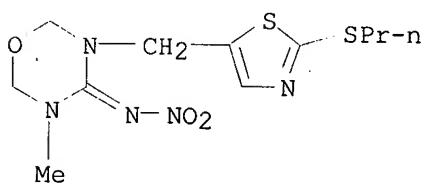
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CN 4H-1,3,5-Oxadiazin-4-imine, tetrahydro-3-methyl-5-[[2-(methylthio)-5-thiazolyl]methyl]-N-nitro- (9CI) (CA INDEX NAME)



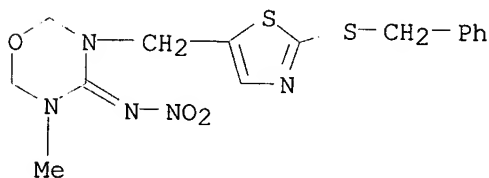
RN 192439-37-5 USPATFULL

CN 4H-1,3,5-Oxadiazin-4-imine, tetrahydro-3-methyl-N-nitro-5-[[2-(propylthio)-5-thiazolyl]methyl]- (9CI) (CA INDEX NAME)



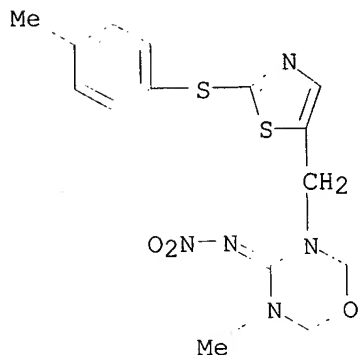
RN 192439-38-6 USPATFULL

CN 4H-1,3,5-Oxadiazin-4-imine, tetrahydro-3-methyl-N-nitro-5-[[2-[(phenylmethyl)thio]-5-thiazolyl]methyl]- (9CI) (CA INDEX NAME)

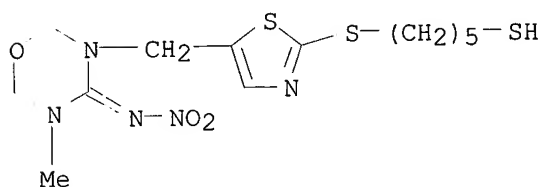


RN 192439-39-7 USPATFULL

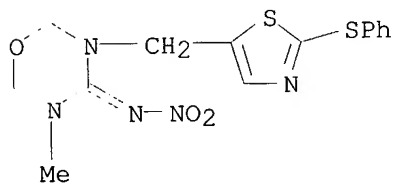
CN 4H-1,3,5-Oxadiazin-4-imine, tetrahydro-3-methyl-5-[[2-[(4-methylphenyl)thio]-5-thiazolyl]methyl]-N-nitro- (9CI) (CA INDEX NAME)



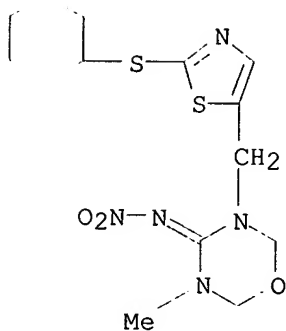
RN 192439-40-0 USPATFULL
CN 1-Pentanethiol, 5-[[5-[[dihydro-5-methyl-4-(nitroimino)-2H-1,3,5-oxadiazin-3(4H)-yl]methyl]-2-thiazolyl]thio]- (9CI) (CA INDEX NAME)



RN 192439-46-6 USPATFULL
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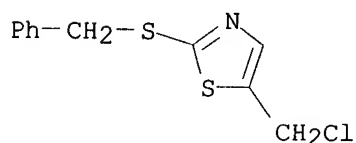


RN 192439-47-7 USPATFULL
CN 4H-1,3,5-Oxadiazin-4-imine, 3-[[2-(cyclohexylthio)-5-thiazolyl]methyl]tetrahydro-5-methyl-N-nitro- (9CI) (CA INDEX NAME)



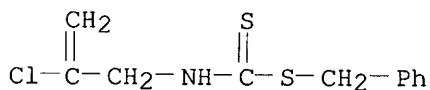
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CN Thiazole, 5-(chloromethyl)-2-[(phenylmethyl)thio]- (9CI) (CA INDEX NAME)



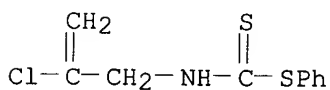
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CN Carbamodithioic acid, (2-chloro-2-propenyl)-, phenylmethyl ester (9CI)
(CA INDEX NAME)



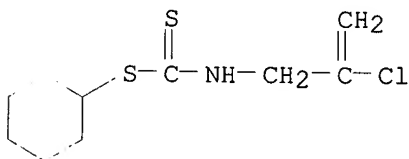
RN 209548-64-1 USPATFULL

CN Carbamodithioic acid, (2-chloro-2-propenyl)-, phenyl ester (9CI) (CA
INDEX NAME)



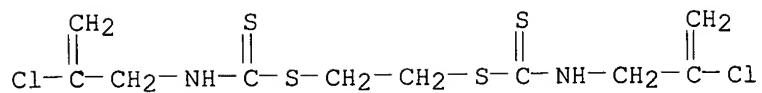
RN 209548-65-2 USPATFULL

CN Carbamodithioic acid, (2-chloro-2-propenyl)-, cyclohexyl ester (9CI) (CA
INDEX NAME)



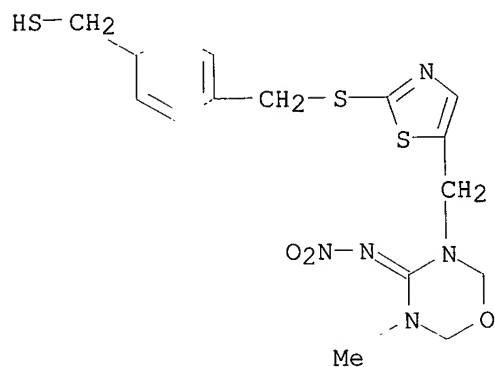
RN 209548-66-3 USPATFULL

CN Carbamodithioic acid, (2-chloro-2-propenyl)-, 1,2-ethanediyl ester (9CI)
(CA INDEX NAME)



RN 209548-71-0 USPATFULL

CN Benzenemethanethiol, 4-[[[5-[[dihydro-5-methyl-4-(nitroimino)-2H-1,3,5-oxadiazin-3(4H)-yl]methyl]-2-thiazolyl]thio]methyl]- (9CI) (CA INDEX NAME)



=> fil casre; d stat que 132
FILE 'CASREACT' ENTERED AT 10:43:05 ON 13 DEC 2002
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FILE CONTENT:1907 - 8 Dec 2002 VOL 137 ISS 23

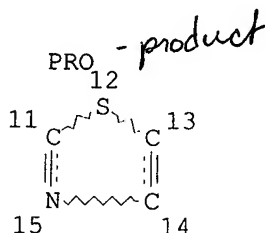
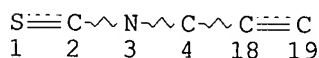
Some records from 1974 to 1991 are derived from the ZIC/VINITI data file and provided by InfoChem and some records are produced using some INPI data from the period prior to 1986.

This file contains CAS Registry Numbers for easy and accurate substance identification.

Crossover limits have been increased. See HELP RNCROSSOVER for details.

Structure search limits have been raised. See HELP SLIMIT for the new, higher limits.

L27 *- reactant or reagent* STR
RRT



NODE ATTRIBUTES:

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DEFAULT ECLEVEL IS LIMITED

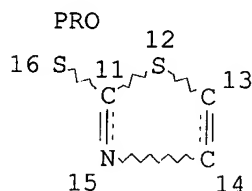
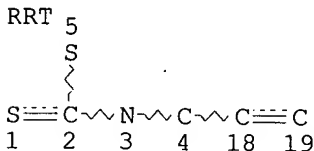
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NUMBER OF NODES IS 11

STEREO ATTRIBUTES: NONE

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L30 STR



subset search done on this structure

NODE ATTRIBUTES:

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DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
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NUMBER OF NODES IS 13

STEREO ATTRIBUTES: NONE
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100.0% DONE 3 VERIFIED 3 HIT RXNS 1 DOCS
SEARCH TIME: 00.00.01

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L32 ANSWER 1 OF 1 CASREACT COPYRIGHT 2002 ACS
ACCESSION NUMBER: 129:95484 CASREACT
TITLE: Preparation of thiazoles
INVENTOR(S): Pitterna, Thomas; Szczepanski, Henry; Maienfisch,
Peter; Huter, Ottmar Franz; Rapold, Thomas; Senn,
Marcel; Gobel, Thomas; O'Sullivan, Anthony Cornelius;
Seifert, Gottfried
PATENT ASSIGNEE(S): Novartis A.-G., Switz.
SOURCE: PCT Int. Appl., 47 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9827074	A1	19980625	WO 1997-EP7087	19971217
W:	AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
RW:	GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG			
AU 9857592	A1	19980715	AU 1998-57592	19971217
AU 727669	B2	20001221		
EP 946531	A1	19991006	EP 1997-953841	19971217
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CN 1241182	A	20000112	CN 1997-180777	19971217
CN 1086388	B	20020619		
BR 9714066	A	20000509	BR 1997-14066	19971217
TW 432056	B	20010501	TW 1997-86119053	19971217
JP 2001506254	T2	20010515	JP 1998-527322	19971217
ZA 9711358	A	19980708	ZA 1997-11358	19971218
US 6121455	A	20000919	US 1999-331432	19990813
US 6369233	B1	20020409	US 2000-628392	20000801
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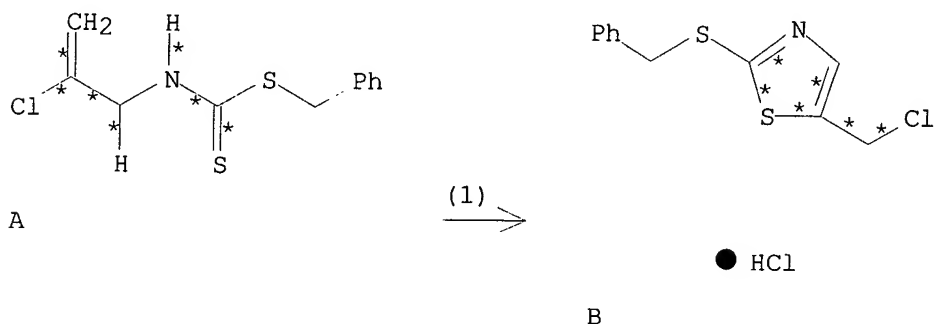
OTHER SOURCE(S): MARPAT 129:95484
GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB The title compds. [I; Q = CH, N; Y = NO₂, CN; Z = CHR₃, O, NR₃, S; R₁, R₂ = H, (un)substituted C1-6 alkyl; R₁R₂ = alkylene which may addnl. contain a hetero atom selected from the group consisting of NR₅, O and S; R₃ = H, (un)substituted C1-12 alkyl] were prepd. by a) reacting dithiocarbamate II [R = (un)substituted C1-12 alkyl, C2-4 alkenyl, C2-4 alkynyl, etc.; X₁ = a leaving group)] with a halogenating agent to form thiazole III [X = halo; m = 0-1], or by b) converting II by means of a halogenating agent into thiazoline IV, optionally c) converting IV into III, d) reacting III with the compd. V to form thiazole VI, e) or reacting IV with V to form thiazole VI, and f) treatment of compd. VI with chlorinating agent.

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

RX(1) OF 16 ...A ==> B



RX(1) RCT A 192723-46-9

STAGE(1)

RGT C 144-55-8 NaHCO₃

SOL 108-90-7 PhCl

STAGE(2)

RGT D 7791-25-5 SO₂Cl₂

STAGE(3)

SOL 110-54-3 Hexane

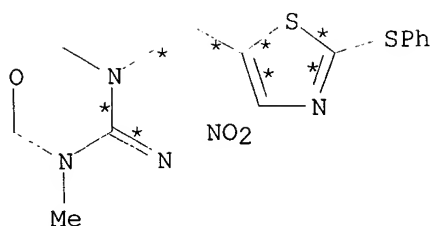
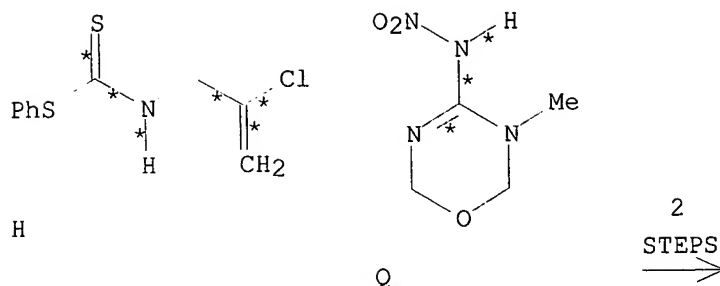
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PRO B 192439-34-2

RX(10) OF 16 COMPOSED OF RX(2), RX(5)

RX(10) H + Q ==> R



R

RX(2) RCT H 209548-64-1

STAGE(1)

SOL 74-97-5 BrCH₂Cl

STAGE(2)

RGT J 7726-95-6 Br₂

PRO I 209548-68-5

RX(5) RCT Q 153719-38-1

STAGE(1)

RGT S 584-08-7 K₂CO₃, T 36273-11-7 4-Aza-1-azoniabicyclo[2.2.2]octane, 1-(chloromethyl)-, chloride

SOL 78-93-3 EtCOMe

STAGE(2)

RCT I 209548-68-5

STAGE(3)

RGT U 7732-18-5 Water

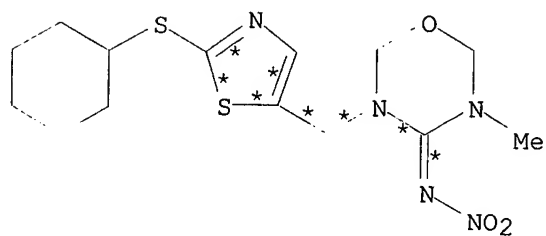
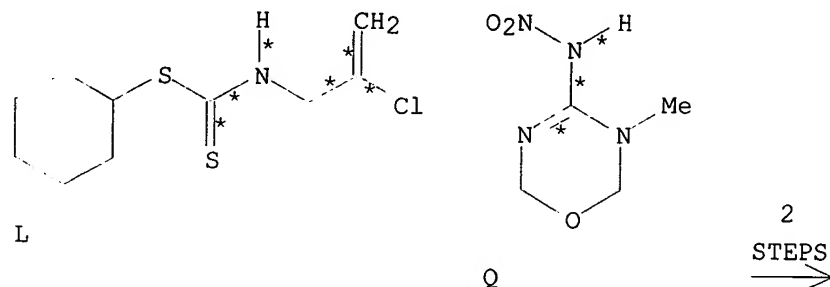
STAGE(4)

RGT E 7647-01-0 HCl

PRO R 192439-46-6

RX(11) OF 16 COMPOSED OF RX(3), RX(6)

RX(11) L + Q ==> W



W

RX(3) RCT L 209548-65-2

STAGE(1)

SOL 75-05-8 MeCN

STAGE(2)

RGT J 7726-95-6 Br₂

PRO M 209548-69-6

RX(6) RCT Q 153719-38-1

STAGE(1)

RGT S 584-08-7 K₂CO₃, T 36273-11-7 4-Aza-1-
azoniabicyclo[2.2.2]octane, 1-(chloromethyl)-, chloride

SOL 78-93-3 EtCOMe

STAGE(2)

RCT M 209548-69-6

STAGE(3)

RGT U 7732-18-5 Water

STAGE(4)

RGT E 7647-01-0 HCl

PRO W 192439-47-7

=> fil hom

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